IN THE CLAIMS:

1.   (Original) A method of allocating bandwidth in a first node that is operable in an ad hoc, wireless network configured to support at least one guaranteed feasible flow allocation, the method comprising the steps of:

initiating a communication between the first node and a second node in the network that, together, are endpoints of a link, the communication being related to possible bandwidth allocation adjustment of a flow sharing the link;

determining, in the first node, a first new bandwidth allocation that approaches a first optimization condition for the flow;

communicating with the second node to determine a mutually-agreed upon optimal bandwidth allocation for the flow;

notifying neighbor nodes in the network of the mutually-agreed upon optimal bandwidth allocation when reallocation is needed; and

adopting the mutually-agreed upon optimal allocation for the flow when reallocation is needed.

2.   (Original) The method of claim 1, further comprising the step of:

re-performing the initiating, determining, communicating, notifying, and adopting steps at a later point in time.

Application No.: 10/736,909

3.   (Previously Presented) The method of claim 1 wherein the determining step comprises determining, in the first node, the first new bandwidth allocation that approaches at least one of a Max Min Fair condition and a Quality of Service guarantee condition.

4.   (Original) The method of claim 1, wherein the initiating step comprises initiating a communication between the first node and the second node in a slotted, ad hoc, wireless network.

5.   (Original) The method of claim 1, wherein the initiating step comprises initiating a communication between the first node and the second node in a network on which a Time Division Multiple Access (TDMA) schedule is implemented.

6.   (Original) A network device configured to allocate bandwidth in an ad hoc, wireless network configured to support at least one guaranteed feasible flow allocation, the device comprising:

a first communication unit configured to initiate a communication between the device and a node in the network that, together, are endpoints of a link in the network, the communication being related to possible bandwidth allocation adjustment of a flow sharing the link;

Application No.: 10/736,909

a first processing unit configured to determine a first new bandwidth allocation that approaches a first optimization condition for the flow, wherein the first processing unit is operably connected to the first communication unit;

a second communication unit configured to communicate with the node to determine a mutually-agreed upon optimal bandwidth allocation for the flow, wherein the second communication unit is operably connected to the first communication unit;

a third communication unit configured to notify neighbor nodes in the network of the mutually-agreed upon optimal bandwidth allocation when reallocation is needed, wherein the third communication unit is operably connected to the first communication unit; and

a second processing unit configured to adopt the mutually-agreed upon optimal allocation for the flow when reallocation is needed, wherein the second processing unit is operably connected to the first communication unit.

7.   (Previously Presented)   A computer program embodied on a computer readable medium to allocate bandwidth in an ad hoc, wireless network configured to support at least one guaranteed feasible flow allocation, the computer program being configured to control a processor to perform:

a first sub-routine for initiating a communication between the first node and a second node in the network that, together, are endpoints of a link, the communication being related to possible bandwidth allocation adjustment of a flow sharing the link;

Application No.: 10/736,909

a second sub-routine for determining, in the first node, a first new bandwidth allocation that approaches a first optimization condition for the flow;

a third sub-routine for communicating with the second node to determine a mutually-agreed upon optimal bandwidth allocation for the flow;

a fourth sub-routine for notifying neighbor nodes in the network of the mutually-agreed upon optimal bandwidth allocation when reallocation is needed; and

a fifth sub-routine for adopting the mutually-agreed upon optimal allocation for the flow when reallocation is needed.

8.   (Original) A network device configured to allocate bandwidth in an ad hoc, wireless network configured to support at least one guaranteed feasible flow allocation, the device comprising:

initiation means for initiating a communication between the first node and a second node in the network that, together, are endpoints of a link, the communication being related to possible bandwidth allocation adjustment of a flow sharing the link;

determination means for determining, in the first node, a first new bandwidth allocation that approaches a first optimization condition for the flow;

determination means for communicating with the second node to determine a mutually-agreed upon optimal bandwidth allocation for the flow;

notification means for notifying neighbor nodes in the network of the mutually-agreed upon optimal bandwidth allocation when reallocation is needed; and

Application No.: 10/736,909

adoption means for adopting the mutually-agreed upon optimal allocation for the flow when reallocation is needed.

Application No.: 10/736,909